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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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MICROSOFT CORPORATION
ATTN: PATENT GROUP DOCKETING DEPARTMENT
ONE MICROSOFT WAY
REDMOND, WA 98052-6399

EXAMINER	
NGUYEN, VAN H	
ART UNIT	**PAPER NUMBER**
2194	

DATE MAILED: 11/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/872,257	MORRISON ET AL.	
	Examiner	Art Unit	
	VAN H. NGUYEN	2194	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 August 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-39 and 66-74* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-39 and 66-74* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is in response to the amendment filed on August 16th, 2005.

2. Claims 1-39 and 66-74 are currently presented in this application.

Claim Objections

3. Claim 69 is objected to because of the following informalities: *"an parent identifier"* should read *"a parent identifier"*. Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. **Claims 1-20 and 66-74** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Beatty et al.** (US 5,748,489) in view of **Chang et al.** (US 5,706,516).

6. **As to claim 1:**

Beatty teaches the invention substantially including a method *(see the abstract)* for a first process *(e.g., one slave process)* running on a computing device *(e.g., a computer system)*

to communicate *(e.g., communication)* with a second process *(e.g., another slave process)*, the method comprising:

i. creating a process table *(e.g., builds a routing table; col.7, lines 32-34)* on the computing device;

ii. rendering the process table accessible to the first process *(e.g., describes where to route information destined for the leaves 'i.e., slave processes'; col.8, lines 19-22)*;

iii. associating a Unique Identifier with the second process *(e.g., the children receive these identifiers as part of their initialization information; col.6, lines 60-67)*;

iv. creating an entry for the second process in the process table *(e.g., subsequent to each master process receiving a response from all its children...entries in the routing table; col.7, lines 26-38)*;

v. associating the Unique Identifier of the second process with the process entry for the second process in the process table *(e.g., when it spawned its children, assigned unique identifiers to all the boundary pins of the children; col.6, lines 53-62)*;

vi. specifying a communications task to perform *(e.g., subsequent to establishing communication...the master processes schedule the operations; col.4, lines 21-29)*; and

vii. using the Unique Identifier of the second process to specify that the communications task be performed with respect to the second process *(e.g., the*

slave processes perform the actual operations...execute complex task; col. 4, lines 25-29).

viii. configuring the second process to response to a global event by releasing resource, reporting status, and performing a controlled shutdown *(see the events discussion beginning at col.8, line 32).*

viii. Beatty does teach the Unique Identifier, but does not specifically teach a Universally Unique Identifier.

ix. Chang teaches a Universally the Unique Identifier *(e.g., UUID; col.2, lines 49-62 and col.5, lines 40-51).*

x. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Chang and Beatty because Chang's teaching would have provided the capability for globally identifying a process among a plurality of processes running on the different nodes in the distributed computer system.

7. **As to claim 2:**

i. Chang teaches shared memory *(e.g., shared memory; col.9, lines 29-32).*

ii. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Chang and Beatty because Chang's teaching would have allowed the multiple processes to communicate and share common data, thus reducing disk I/O and improving performance.

8. **As to claim 3:**

i. Beatty does teach coordinating access to the process table and to the process entry for the second process *(col.7, lines 29-55),* but Beatty does not specifically teach the use of software locks.

ii. Chang teaches the use of software locks *(e.g., lock manager; col.4, lines 42-53).*

iii. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Chang and Beatty because Chang's teaching would have provided the capability for managing access of the processes in the distributed computer system.

9. **As to claim 4:**

Beatty teaches writing status information about the second process into the process entry for the second process *(col.6, lines 15-25);* and retrieving the status information about the second process by using the unique identifier of the second process to access the process entry for the second process in the process table *(col.6, lines 52-67).* Refer to claim 1 above regarding the UUID.

10. **As to claim 5:**

Beatty teaches periodically writing a heartbeat update time *(col.10, lines 14-24)* and wherein the method further comprises: comparing the heartbeat update time in the status information to the current time *(col.10, lines 25-36)*; and determining if the second process is running based on the comparing of the times *(col.10, lines 59-67).*

11. **As to claim 6:**

Beatty teaches specifying requesting information from a process *(col.7, lines 26-37)* and wherein the method further comprises: specifying a type of information requested *(col.8, lines 32-53)*; and returning the information requested to the first process *(col.7, lines 55-65)*.

12. **As to claim 7:**

Beatty teaches the type of information requested is selected from the set: log output, console output *(col.10, lines 14-22)*.

13. **As to claim 8:**

Beatty teaches specifying a period of time during which to return the information requested *(col.10, lines 31-36)*; and wherein returning comprises returning the information requested during the specified period of time *(col.10, lines 59-62)*.

14. **As to claim 9:**

Beatty teaches returning the information requested until the first process indicates that the information need no longer be returned *(col.10, lines 62-67)*.

15. **As to claim 10:**

Beatty teaches specifying waiting for the second process to achieve a status *(col.10, lines 29-36)*.

16. **As to claim 11:**

Beatty teaches the status is in the set: initialized, debug_break, terminated *(see fig.2 and the associated text)*.

17. **As to claim 12:**

Beatty teaches specifying a communications task to perform comprises specifying sending a signal to the second process *(410; fig. 4)*.

18. **As to claim 13:**

Beatty teaches sending a signal indicates that the process should terminate *(412; fig. 4)*.

19. **As to claim 14:**

Beatty teaches associating a unique identifier with a third process *(col.6, lines 60-67)*; creating an entry for the third process in the process table *(col.7, lines 26-38)*; associating the unique identifier of the third process with the process entry for the third process in the process table *(col.6, lines 53-62)*; associating the unique identifier of the second process with the process entry for the third process in the process table *(col.6, lines 53-62)*; and using the unique identifier of the second process to specify that the communications task be performed with respect to the third process *(col. 4, lines 25-29)*. Refer to claim 1 above regarding the UUID.

20. **As to claim 15:**

Beatty teaches the third process is a child of the second process *(see fig.5b)*.

21. **As to claim 16:**

Beatty teaches using the unique identifier of the second process to specify that the communications task be performed with respect to all descendents of the second process *(col. 6, lines 53-62)*. Refer to claim 1 above regarding the UUID.

22. **As to claim 17:**

Beatty teaches the second process runs on a second computing device distinct from the computing device on which the first process runs *(col. 4, lines 36-46)*.

23. **As to claim 18:**

Beatty teaches associating an identifier of the second computing device *(col. 6, lines 53-54)* with the process entry for the second process in the process table *(col. 7, lines 32-33)*; creating a second process table on the second computing device *(col.7, lines 32-33 &45-46 and col. 8, lines 19-22)*; creating an entry for the second process in the second process table *(col. 7, lines 34-37)*; and associating the unique identifier of the second process with the process entry for the second process in the second process table *(col. 7, lines 35-55)*. Refer to claim 1 above regarding the UUID.

24. **As to claim 19:**

Beatty teaches writing status information about the second process into the process entry for the second process in the second process table *(col.6, lines 15-25)*; and retrieving the status information about the second process by using the unique identifier of the second process to access the process entry for the second process in the second process table *(col.6, lines 52-67)*. Refer to claim 1 above regarding the UUID.

25. **As to claim 20:**

Beatty teaches a computer-readable medium having instructions for performing the method of claim 1 *(col.3, lines 10-13)*.

26. **As to claim 66:**

Note the rejection of claim 1 above. Claim 66 is the same as claim 1, except claim 66 is a computer-readable medium claim and claim 1 is a method claim.

27. **As to claim 67:**

Chang teaches configuring the second process to periodically log heartbeat entries in the shared memory *(col.9, lines 29-32)*.

28. **As to claim 68:**

Beatty teaches configuring the first process to access the heartbeat entries logged by the second process in the process table *(col.7, lines 26-37)*.

29. **As to claim 69:**

Beatty teaches associating a set of processes with parent identifier that identifies a parent process from which the processes in the set depend, and in response to a termination of the parent process, canceling the processes identified by the parent identifier *(col.11, line 67-col.8, lines 22)*.

30. **As to claim 70-72:**

Refer to claim 1 above.

31. **As to claim 73:**

Beatty teaches means for defining global events associated with all of the remote processes identified in the process table; and means for assigning meanings to the defined global events *(see the events discussion beginning at col.8, line 32)*.

32. **As to claim 74:**

Beatty teaches the information in the process table associated with each remote process

includes, among other things, a process type *(see fig.2 and the associated text).*

33. **Claims 21-39** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Beatty et al.** (US 5,748,489) in view of **Chang et al.** (US 5,706,516), and further in view of **Bala et al.** *"Process groups: a mechanism for the coordination and communication among processes in the Venus collective communication library"* 1993 IEEE, pp. 614-620.

34. **As to claim 21:**

i. The rejection of claim 1 above is incorporated herein in full. Additionally, Beatty further teaches a third process *(e.g., slave processes; see fig.7).*

ii. The combination of Beatty and Chang does teach the UUID, but does not specifically teach a group unique identifier.

ii. Bala teaches the use of a group unique identifier *(e.g., a unique Process Group Identifier; section 2.1, page 615).*

iii. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Bala with Beatty as modified by Chang because Bala's teaching would have allowed entire collections of processed to be identified and manipulated in a single call.

35. **As to claims 22-31:**

Refer to claims 2-11 above.

36. **As to claims 32-35:**

Refer to claims 10-13 above.

37. **As to claim 36:**

Refer to claim 17 above.

38. **As to claim 37:**

Beatty teaches associating an identifier of the second computing device *(col.6, lines 60-67)* with the process entry for the second process in the process table *(col.7, lines 26-38)*; creating a second process table on the second computing device *(col.7, lines 32-33 &45-46 and col. 8, lines 19-22)*; creating an entry for the second process in the second process table *(col. 7, lines 34-37)*; and associating the unique identifier with the process entry for the second process in the second process table *(col. 7, lines 35-55)*. Refer to claim 21 above regarding the group UUID

39. **As to claims 38 and 39:**

Refer to claims 19 and 20 above.

Response to Arguments

40. Applicant's arguments filed on August 09th, 2005 have been fully considered but they are not persuasive.

41. In the remarks, Applicant argued in substance that (a) processes and is not used for explicitly specifying the communications. Thus, Beatty fails to disclose or suggest the steps of "rendering the process table accessible to the first process"; "associating a Universally Unique Identifier with the second process; and using UUID of the second process to specify that the communications task be performed with respect to the second

process, as recited in claim 1; and (b) Nothing in Beatty discloses or suggests configuring the processes to respond to a particular event, such as for a controlled termination. Thus, Beatty also fails to disclose or suggest "configuring the second process to respond to a global event by releasing resources, reporting status, and performing a controlled shutdown."

42. Examiner respectfully traverses Applicant's remarks.

43. As to point (a), Applicant is arguing against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See In re Keller, 642F. 2d 413, 208 USPQ 871 (CCPA 1981); In re Merck & Co., 800 F. 2d 1091, 231 USPQ 375 (Fed. Cir.1986). Applicant obviously attacks references individually without taking into consideration based on the teaching of combinations of references as shown above. The rejection above shows how the combination of Beatty and Chang meet the claim limitations.

44. As to point (b), "configuring the second process to respond to a global event by releasing resources, reporting status, and performing a controlled shutdown" was not previously claimed. Beatty does meet the claimed *limitation (see the events discussion beginning at col.8, line 32).*

Conclusion

45. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Sloman "Network and distributed systems management" pp. 309-347.

46. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

47. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

38. Any inquiry or a general nature or relating to the status of this application should be directed to the TC 2100 Group receptionist: (571) 272-2100.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to VAN H. NGUYEN whose telephone number is (571) 272-3765. The examiner can normally be reached on Monday-Thursday from 8:30AM – 6:00PM. The examiner can also be reached on alternative Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor WILLIAM THOMSON can be reached on (571) 272-3718.

The fax phone number for the organization where this application or proceeding is assigned is **571-273-8300**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any response to this action should be mailed to:
Commissioner for patents
P O Box 1450
Alexandria, VA 22313-1450

W Thomson
TC 2100
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